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Abstract

Long-term dialysis requires provision of safe and reliable vascular access, often in the form of an arteriovenous (AV) fistula. The primary cause of AV fistula loss or failure 5 is stenosis caused by intimal hyperplasia (IH) in the graft at the venous anastomosis or the distal vein. Disclosed are methods of using photodynamic therapy (PDT) to inhibit IH in blood vessels which may also be used to inhibit IH and SMC growth at the anastomosis of an AV fistula *in vivo*.